



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,294	07/15/2003	Nick S. Bromer		6307

7590 06/22/2007  
Nick Bromer  
402 Stackstown Road  
Marietta, PA 17547-9311

EXAMINER

PENDLETON, DIONNE

ART UNIT	PAPER NUMBER
----------	--------------

2615

MAIL DATE	DELIVERY MODE
-----------	---------------

06/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/619,294

**Applicant(s)**

BROMER, NICK S.

**Examiner**

Dionne H. Pendleton

**Art Unit**

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,8,9 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) 24 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8,9,18-23 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/15/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Newly submitted **claims 24 and 25** are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 24 is drawn to non-elected Species 1/Figure 1. Claim 25 is drawn to non-elected Species 3/Figure 4.

Since applicant has received an action on the merits for the originally elected Species 2/Figs. 2,3 and 5, claims 23 and 24 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-4,6,8,9,18-20,22,23,26 and 27** are rejected under 35 U.S.C. 102(b) as being anticipated by **North (US 6,801,631)**.

Regarding claim 1, North teaches, in **figures 1, 2, 7 and 11**, a loudspeaker for outputting sound in a frequency range including a lowest frequency  $f$ , the lowest frequency inherently having a wave number  $k$ , the loudspeaker comprising:

In **figure 11**, a circular arrangement for radiating a sound wave, which reads on “a generally arcuate source of wind pulsating at the frequency  $f$ ”;

The circular arrangement of the loudspeakers reads on “the source having an arcuate radius  $r$ ” such that a quantity  $rk$  is *approximately* equal to or larger than one, as broadly claimed; In **column 6, lines 20-25**, North teaches the use of multiple 6.5 inch drivers separated by nearly 1 foot (9 inches), further teaches in **column 7, lines 1-12** the preferred realization as a “large” speaker system, and in **column 8, lines 57-59**, teaches a “large” baffle area, which corresponds to the recitation “wherein  $r$  is greater than 1.00 feet”; and whereby wind is converted to sound via loudspeaker components, and the bass frequency response is improved, via arcuate arrangement of the loudspeaker components (*see column 7, lines 9-11*).

Regarding claim 2, **FIG. 11** of North teaches that the generally arcuate source of wind comprises a plurality of electrodynamic loudspeakers (**1150,1160,1170,1180**) disposed in an arcuate array, *indicated by dashed line 1190*.

Regarding claim 3, **FIG. 7** teaches a center baffle area (*as provided by enclosure panel 710*) aligned parallel with a plane defined by the generally arcuate source of wind.

Regarding claim 4, in **FIG. 2**, North teaches a generally arcuate sound source of wind comprising a plurality of loudspeakers (**220,230,240,250**) disposed in at least a

portion of a generally arcuate line array (*see arcuate line array in Figure 11*), the loudspeakers are mounted in the surface of a central baffle **210**.

Regarding claim 6, in **Fig. 12**, North teaches a hollow cabinet in which the loudspeakers are mounted in holes in the surface of the central baffle, as claimed.

Regarding claim 8, **FIG. 11** teaches that the arcuate source of wind describes an arc of the radius from a single center point, and further comprising a bottom surface of the cabinet serving as the "mount" for mounting said speaker cabinet on the floor, said floor corresponding to the "symmetry baffle"; and further wherein said symmetry baffle is substantially perpendicular to a plane including the arcuate source and its radius.

Regarding claim 9, **FIG. 2** teaches that the floor, which reads on "symmetry baffle" is a radial symmetry baffle and a center point of the arc (*existing between the three lower transducers 220,240,250*) lies adjacent the symmetry baffle.

Regarding claim 18, the method of claim 18 is inherently taught by the apparatus of **FIGs. 1,7 and 11** in North. See the rejection of claim 1, above.

Regarding claim 19, in **FIG. 7**, North teaches a method comprising providing a central baffle (*as provided by enclosure panel 710*) aligned with a plane defined by the generally arcuate source of wind.

Regarding claim 20, **FIGs. 1,2,7 and 11** teach a method comprising providing at least one symmetry baffle (see the floor) aligned substantially perpendicular to the central baffle and providing a generally arcuate source of wind around an arc to meet the symmetry baffle generally perpendicular.

Regarding claim 22, In **FIG. 1**, North teaches that the center point is on a central baffle (**110**).

Regarding claim 23, As shown in **FIG. 11**, North teaches that the arc of the radius  $r$  includes  $1/n$  of a whole circle, where  $n$  is an integer.

Regarding claim 26, North teaches, in **FIGs. 1, 2, 7 and 11**, a loudspeaker for outputting sound in a frequency range including a lowest frequency  $f$ , the lowest frequency inherently having a wave number  $k$ , the loudspeaker comprising:

In **figure 2**, a central baffle **210** including a source of wind (**220-250**) pulsating at an inherent frequency  $f$ , the source extending over an arc of radius (see *Figure 11*) such that a quantity  $rk$  is *approximately* equal to or larger than one, as broadly claimed;

The central baffle being bound by the floor-mount, which corresponds to the "at least one symmetry baffle", said symmetry baffle being perpendicular to the central baffle; whereby wind is converted to sound via loudspeaker components, and the bass frequency response is improved, see *column 7, lines 9-11*.

Regarding claim 27, In **column 6, lines 20-25**, North teaches the use of multiple 6.5 inch drivers separated by nearly 1 foot (9 inches), further teaches in **column 7, lines 1-12** the preferred realization as a "large" speaker system, and in **column 8, lines 57-59**, teaches a "large" baffle area, which corresponds to the recitation "wherein  $r$  is greater than 1.00 feet".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 21 and 28** rejected under 35 U.S.C. 103(a) as being unpatentable over **North (US 6,801,631)**.

Regarding claims 21 and 28,

North teaches the loudspeaker of claim 4. North does not clearly teach that the speakers, included therein, are tilted in the same direction relative to the central baffle. However, the Examiner takes *Official Notice*, that it is well known in the art and would have been obvious to mounted the speakers within the central baffle having a tilted orientation, for the purpose is optimizing directivity from the loudspeaker system.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-4,6,8,9,14 and 16-21 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.




Art Unit: 2615

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dionne Pendleton



VIVIAN CHIN  
SUPERVISOR/PATENT EXAMINER  
TECHNOLOGY CENTER 2200